

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. **(Currently Amended)** A contactless IC card comprising:
 - a demodulator circuit which receives a carrier wave that has been ASK-modulated with digital data, and demodulates the ASK-modulated carrier wave to recover the digital data;
 - a memory unit; and
 - suspending means which suspends the demodulation by the demodulator circuit during a period within each period corresponding to each bit of the digital data where there is no possibility of a change of a data value in the digital data;
 - wherein the memory unit is accessed while the suspending means is suspending the demodulation.
2. (Original) The contactless IC card of Claim 1,
 - wherein the demodulator circuit includes:
 - a detector circuit which detects an envelope of the ASK-modulated carrier wave;
 - a reference voltage generator circuit which outputs a reference voltage;
 - a differential circuit which receives the envelope from the detector circuit, and outputs differential components of the received envelope based on the reference voltage;
 - and
 - a comparator circuit which includes a first input terminal for receiving the output of the differential circuit, a second input terminal for receiving the output of the reference voltage generator circuit, and an output terminal, compares a voltage at the first input terminal and a voltage at the second input terminal, and inverts an

output of the output terminal if a difference between the two voltages exceeds a predetermined value.

3. (Previously Presented) A contactless IC card comprising:

a demodulator circuit which receives a carrier wave that has been ASK-modulated with digital data, and demodulates the ASK-modulated carrier wave to recover the digital data; and suspending means which suspends the demodulation by the demodulator circuit during periods where there is no possibility of a change of a data value in the digital data;

wherein the demodulator circuit includes:

a detector circuit which detects an envelope of the ASK-modulated carrier wave;
a reference voltage generator circuit which outputs a reference voltage;
a differential circuit which receives the envelope from the detector circuit, and outputs differential components of the received envelope based on the reference voltage; and

a comparator circuit which includes a first input terminal for receiving the output of the differential circuit, a second input terminal for receiving the output of the reference voltage generator circuit, and an output terminal, compares a voltage at the first input terminal and a voltage at the second input terminal, and inverts an output of the output terminal if a difference between the two voltages exceeds a predetermined value; and

wherein the suspending means includes:

a short-circuit control circuit which short-circuits the first input terminal and the second input terminal during the periods where there is no possibility of a change of a data value in the digital data; and

a short-circuit control signal output circuit which outputs a short-circuit control signal to the short-circuit control circuit, to indicate the periods during which there is no possibility of a change of a data value in the digital data.

4. (Previously Presented) The contactless IC card of Claim 3,
wherein the short-circuit control circuit is a transistor whose source and drain are connected to different terminals among the first and second input terminals of the comparator circuit, and whose gate receives the short-circuit control signal.
5. (Original) The contactless IC card of Claim 4,
wherein the short-circuit control signal output circuit includes:
a clock generator circuit which generates a clock signal;
a counter which counts the number of edges of the clock signal; and
controlling means which exercises control so that the short-circuit control signal is asserted when the count in the counter reaches a predetermined-number.
6. (Original) The contactless IC card of Claim 5, further comprising
a memory which stores the recovered digital data under the control by the controlling means,
wherein the controlling means accesses the memory during periods where the short-circuit control signal stays asserted.
7. (Previously Presented) A contactless IC card comprising:
a demodulator circuit which receives a carrier wave that has been ASK-modulated with digital data, and demodulates the ASK-modulated carrier wave to recover the digital data; and suspending means which suspends the demodulation by the demodulator circuit during periods where there is no possibility of a change of a data value in the digital data;
wherein the demodulator circuit includes:
a detector circuit which detects an envelope of the ASK-modulated carrier wave;
a reference voltage generator circuit which outputs a reference voltage;

a differential circuit which receives the envelope from the detector circuit, and outputs differential components of the received envelope based on the reference voltage; and

a comparator circuit which includes a first input terminal for receiving the output of the differential circuit, a second input terminal for receiving the output of the reference voltage generator circuit, and an output terminal, compares a voltage at the first input terminal and a voltage at the second input terminal, and inverts an output of the output terminal if a difference between the two voltages exceeds a predetermined value; and

wherein the differential circuit is a CR time constant circuit, and

wherein the suspending means includes:

a time constant increase circuit which sustains a time constant of the CR time constant circuit at a higher level during the periods where there is no possibility of a change of a data value in the digital data; and

a time constant control signal output circuit which outputs a time constant control signal to the time constant increase circuit, to indicate the periods during which there is no possibility of a change of a data value in the digital data.

8. (Original) The contactless IC card of Claim 7,

wherein the time constant increase circuit includes:

a first capacitor which is connected in parallel with a second capacitor included in the CR time constant circuit; and

a switching element which is connected in series with the first capacitor, and receives the time constant control signal from the time-constant control signal output circuit.

9. (Original) The contactless IC card of Claim 8,

wherein the switching element is a transistor whose source or drain is connected with the first capacitor, and whose gate receives the time constant control signal.

10. (Original) The contactless IC card of Claim 7,
wherein the time constant control signal output circuit includes:
a clock generator circuit which generates a clock signal;
a counter which counts the number of edges of the clock signal; and
controlling means which exercises control so that the time constant control signal is asserted when the count in the counter reaches a predetermined number.
11. (Original) The contactless IC card of Claim 10, further comprising
a memory which stores the recovered digital data under the control by the controlling means,
wherein the controlling means accesses the memory during periods where the time constant control signal stays asserted.
12. (**Currently Amended**) A contactless IC card comprising:
a demodulator circuit which receives a carrier wave that has been ASK-modulated with digital data, and demodulates the ASK-modulated carrier wave to recover the digital data;
a memory unit; and
suspending means which suspends the demodulation by the demodulator circuit during periods where there is no possibility of a change of a data value in the digital data;
wherein the demodulator circuit includes:
a detector circuit which detects an envelope of the ASK-modulated carrier wave;
a reference voltage generator circuit which outputs a reference voltage;
a differential circuit which receives the envelope from the detector circuit, and outputs differential components of the received envelope based on the reference voltage; and

a comparator circuit which includes a first input terminal for receiving the output of the differential circuit, a second input terminal for receiving the output of the reference voltage generator circuit, and an output terminal, compares a voltage at the first input terminal and a voltage at the second input terminal, and inverts an output of the output terminal if a difference between the two voltages exceeds a predetermined value; and

wherein the comparator circuit has a hysteresis between upper and lower threshold values with respect to the reference voltage, the upper threshold value being a sum of the predetermined value and the reference voltage, and the lower threshold value being a difference of the predetermined value from the reference voltage,

wherein the suspending means includes a hysteresis control signal output circuit which outputs a hysteresis control signal to the comparator circuit, to indicate the periods during which there is no possibility of a change of a data value in the digital data; and

wherein the comparator circuit includes a hysteresis control circuit which sustains the predetermined value at a higher level to thereby sustain the width of the hysteresis at a greater level, during the periods where there is no possibility of a change of a data value in the digital data; and

wherein the memory unit is accessed while the suspending means is suspending the demodulation.

13. (Currently Amended) ~~The contactless IC card of Claim 12, A contactless IC card comprising:~~

a demodulator circuit which receives a carrier wave that has been ASK-modulated with digital data, and demodulates the ASK-modulated carrier wave to recover the digital data; and

suspending means which suspends the demodulation by the demodulator circuit during periods where there is no possibility of a change of a data value in the digital data;

wherein the demodulator circuit includes:

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a detector circuit which detects an envelope of the ASK-modulated carrier wave;

a reference voltage generator circuit which outputs a reference voltage;

a differential circuit which receives the envelope from the detector circuit, and

outputs differential components of the received envelope based on the

reference voltage; and

a comparator circuit which includes a first input terminal for receiving the output

of the differential circuit, a second input terminal for receiving the output

of the reference voltage generator circuit, and an output terminal,

compares a voltage at the first input terminal and a voltage at the second

input terminal, and inverts an output of the output terminal if a difference

between the two voltages exceeds a predetermined value; and

wherein the comparator circuit has a hysteresis between upper and lower threshold values

with respect to the reference voltage, the upper threshold value being a sum of the

predetermined value and the reference voltage, and the lower threshold value

being a difference of the predetermined value from the reference voltage,

wherein the suspending means includes a hysteresis control signal output circuit which

outputs a hysteresis control signal to the comparator circuit, to indicate the

periods during which there is no possibility of a change of a data value in the

digital data;

wherein the comparator circuit includes a hysteresis control circuit which sustains the

predetermined value at a higher level to thereby sustain the width of the hysteresis

at a greater level, during the periods where there is no possibility of a change of a

data value in the digital data; and

wherein the hysteresis control signal output circuit includes:

a clock generator circuit which generates a clock signal;

a counter which counts the number of edges of the clock signal; and

controlling means which exercises control so that the hysteresis control signal is asserted when the count in the counter reaches a predetermined number.

14. (Original) The contactless IC card of Claim 13, further comprising
a memory which stores the recovered digital data under the control by the controlling
means,
wherein the controlling means accesses the memory during periods where the hysteresis
control signal stays asserted.

15. (Previously Presented) A contactless IC card comprising:
a demodulator circuit which includes a comparator circuit having first and second input
terminals, and which receives a carrier wave that has been ASK-modulated with
digital data, and demodulates the ASK-modulated carrier wave to recover the
digital data; and
a suspension unit which, in response to a short circuit control signal which indicates
periods during which there is no possibility of a change of a data value in the
digital data, short-circuits the first and second input terminals of the comparator
circuit to suspend demodulation by the demodulator circuit including
a short-circuit control circuit which short-circuits the first input terminal and the second
input terminal during the periods where there is no possibility of a change of a
data value in the digital data and a short-circuit control signal output circuit which
outputs a short-circuit control signal to the short-circuit control circuit, to indicate
the periods during which there is no possibility of a change of a data value in the
digital data.

16. (Currently Amended) A contactless IC card comprising:
a demodulator circuit which receives a carrier wave that has been ASK-modulated with
digital data, determines the times at which data changes occur, and demodulates
the ASK-modulated carrier wave to recover the digital data;
a memory unit; and
a suspension unit which suspends the demodulation by the demodulator circuit during
inter-bit periods, wherein each inter-bit period begins after the time at which a

data change occurs and ends prior to the time at which the immediately following data change occurs;

wherein the memory unit is accessed while the suspending means is suspending the demodulation.

17. (Previously Presented) The contactless IC card of Claim 16 wherein the demodulator circuit is powered by energy obtained from the ASK modulated carrier wave.
18. (Previously Presented) The contactless IC card of Claim 16 further comprising a clock generating circuit generating a clock signal by frequency-dividing the ASK modulated carrier wave; wherein the clock signal is used to determine the periods during which demodulation is suspended.